

# **EXHIBIT 1**

**3 OF 3**

**REDACTED**

research conference, Amyloid and other abnormal protein assembly processes, August, 1995.

- A60. Maggio, J.E.: Biochemical approaches to 7TM receptors [Invited Talk]. Structure, Modeling and Biophysics of G Protein-Coupled Receptors, Philadelphia, PA, December, 1995.
- A61. Husain, S.S., Wilson, C.J., Miller, K.W., and Maggio, J.E.:  
*p*-(4-Hydroxybenzoyl)phenylalanine: A photoreactive amino acid analog amenable to radioiodination for elucidation of bioactive peptide-receptor interaction [Invited Talk]. Massachusetts General Hospital Research Symposium, January, 1996.
- A62. Esler, W.P., Stimson, E.R., Ghilardi, J.R., Vinters, H.V., Lee, J.P., Mantyh, P.W., and Maggio, J.E.: Defining a new pharmacological target in Alzheimer's disease. 25th NE Pharmacologists Meeting, February, 1996.
- A63. Lee, J.P., Hassell, D.R.M., Mehr, K.G., Stimson, E.R., Esler, W.P., and Maggio, J.E.: Estimating differences in the hydrodynamic volume of amyloid peptides from Alzheimer's disease via diffusion measurements. 37<sup>th</sup> Experimental NMR Conference, Abst. 76, 1996.
- A64. Casey, N., Stimson, E.R., Esler, W.P., Maggio, J.E., and Lee, J.P.: Comparing the conformational properties of A $\beta$ (12-28) and A $\beta$ (12-28)F19T in water solution. Experimental Nuclear Magnetic Resonance Conference, April, 1996.
- A65. Lee, J.P., Zhang, S.S., Hassell, D., Casey, N., Stimson, E.R., Esler, W.P., and Maggio, J.E.: Forces in the formation of amyloid deposits. Neurobiol. Aging 17: S131-S132, 1996.
- A66. Biere, A.L., Ostaszewski, B.L., Stimson, E.R., Maggio, J.E., and Selkoe, D.J.: A $\beta$  is transported on lipoproteins and albumin in human biological fluids. Neurobiol. Aging 17: S189, 1996.
- A67. Weldon, D.T., Cleary, J.P., Esler, W.P., Ghilardi, J.R., O'Hare, E., Rogers, S.D., Giraudo, S.Q., Maggio, J.E., and Mantyh, P.W.: Neurotoxicity of A $\beta$  peptide: Confocal imaging of cellular changes induced by  $\beta$ -amyloid in rat CNS *in vivo*. Soc. Neurosci. Abst. 22: 193, 1996.
- A68. Esler, W.P., Stimson, E.R., Ghilardi, J.R., Felix, A.M., Lu, Y.-A., Tseng, B.P., Casey, N., Vinters, H.V., Karnovsky, M.L., Lee, J.P., Mantyh, P.W., and Maggio, J.E.: Structure activity analysis of A $\beta$  deposition. Soc. Neurosci. Abst. 22: 1170, 1996.
- A69. Ghilardi, J.R., Finke, M.P., Rogers, S.D., Stimson, E.R., Esler, W.P., Maggio, J.E., Vinters, H.V., Dysken, M.W., and Mantyh, P.W.: Template specific deposition of A $\beta$ <sup>1-40</sup> onto cerebrovascular amyloid and A $\beta$ <sup>1-42</sup> onto

parenchymal amyloid in the human Alzheimer disease brain. Soc. Neurosci. Abst. 22: 1171, 1996.

- A70. Podlisny, M.B., Amarante, P., Walsh, D., Stimson, E.R., Maggio, J.E., Teplow, D., and Selkoe, D.: A $\beta$  aggregation in cell culture: Similar aggregation of <sup>125</sup>I-A $\beta$  and endogenous A $\beta$  and inhibition by Congo red. Soc. Neurosci. Abst. 22: 1171, 1996.
- A71. Wilson, C.J., Husain, S.S., Stimson, E.R., Dangott, L.J., Miller, K.W., Popitz-Bergez, F., and Maggio, J.E.: *p*-(4-Hydroxybenzoyl)phenylalanine: An iodinated photoreactive amino acid analog: Application to substance P receptor. Soc. Neurosci. Abst. 22: 1300, 1996.
- A72. Biere, A.L., Ostaszewski, B.L., Stimson, E.R., Hyman, B.T., Maggio, J.E., and Selkoe, D.J.: A $\beta$  is transported on lipoproteins and albumin in human plasma. Soc. Neurosci. Abst. 22: 1695, 1996.
- A73. Maggio, J.E., Esler, W.P., Stimson, E.R., Ghilardi, J.R., Vinters, H.V., and Mantyh, P.W.: Effects of apolipoprotein E on A $\beta$  aggregation vs. A $\beta$  deposition *in vitro*: Mechanistic implications for the enhanced amyloid burden in  $\epsilon$ 4 Alzheimer's disease. Soc. Neurosci. Abst. 22: 2116, 1996.
- A74. Lee, J.P., Peng, J., Stimson, E., Hassell, D., Shang, S.-S., Casey, N., Li, S., Esler, W., Clish, C., and Maggio, J.E.: The structure of the Alzheimer's peptide suggests that amyloidogenesis is similar to protein folding. Mass. Alzheimer's Disease Res. Center Symposium 10: 29, 1997.
- A75. Zhang, S., Lee, J.P., Stimson, E., Hassell, D., Casey, N., Li, S., Esler, W., Clish, C., and Maggio, J.E.: Electrostatic property studies of Alzheimer's disease peptides by NMR. Mass. Alzheimer's Disease Res. Center Symposium 10: 30, 1997.
- A76. Walsh, D.M., Lomakin, A., Benedek, G.B., Maggio, J.E., Esler, W., Condron, M., and Teplow, D.B.: Amyloid  $\beta$ -protein fibrillogenesis: Discovery and partial characterization of a protofibrillar intermediate. Mass. Alzheimer's Disease Res. Center Symposium 10: 31, 1997.
- A77. Podlisny, M.B., Amarante, P., Walsh, D., Stimson, E., Maggio, J.E., Teplow, D., and Selkoe, D.: A $\beta$  aggregation in cell culture: Similar aggregation of <sup>125</sup>I-A $\beta$  and endogenous A $\beta$  and inhibition by Congo Red. Mass. Alzheimer's Disease Res. Center Symposium 10: 32, 1997.
- A78. Lee, J.P., Li, S., Stimson, E.R., Zhang, S., Maggio, J.E., and Peng, J.W.: Conformational aspects of amyloid peptides in water solution, mechanistic implications for Alzheimer's disease. Mass. Alzheimer's Association Res. Center Symposium 10: 34, 1997.

- A79. Esler, W.P., Stimson, E.R., Ghilardi, J.R., Felix, A.M., Lu, Y.-A., Tseng, B.P., Casey, N., Vinters, H.V., Lee, J.P., Mantyh, P.W., and Maggio, J.E.: Structure-activity analysis of A $\beta$  deposition. Keystone Symp. Mol. Cell. Biol., Molec. Mechanisms in Alzheimer's Disease C1: 17, February 1997.
- A80. Ghilardi, J.R., Rogers, S., Maggio, J.E., and Mantyh, P.W.: Site specific deposition of A $\beta$ 40 and A $\beta$ 42 in Alzheimer disease brain. Keystone Symp. Mol. Cell. Biol., Molec. Mechanisms in Alzheimer's Disease C1: 19, February 1997.
- A81. Mantyh, P.W., Rogers, S.D., Ghilardi, J.R., Cleary, J.P., O'Hare, E., Esler, W.P., Maggio, J.E., and Weldon, D.T.: Fibrils of synthetic  $\beta$ -amyloid peptide induce reactive gliosis and glial expression of inducible nitric oxide synthase in the rat CNS *in vivo*. Keystone Symp. Mol. Cell. Biol., Molec. Mechanisms in Alzheimer's Disease C1: 23, February 1997.
- A82. Casey, N., Stimson, E., Wilson, C., Zhang, S., Clish, C., Li, S., Esler, W., Maggio, J., and Lee, J.: Formation of dimers of the Alzheimer's A $\beta$  peptide. Keystone Symp. Mol. Cell. Biol., Molec. Mechanisms in Alzheimer's Disease C1: 29, February 1997.
- A83. Lee, J., Peng, J., Stimson, E., Hassell, D., Zhang, S., Casey, N., Li, S., Esler, W., Clish, C., and Maggio, J.: The structure of the Alzheimer's peptide suggests that amyloidogenesis is similar to protein folding. Keystone Symp. Mol. Cell. Biol., Molec. Mechanisms in Alzheimer's Disease C1: 30, February 1997.
- A84. Maggio, J.E., Esler, W.P., Stimson, E.R., Ghilardi, J.R., Vinters, H.V., and Mantyh, P.W.: Apolipoprotein E affects A $\beta$  aggregation but not A $\beta$  deposition *in vitro*: APO $\epsilon$ 4 as a loss of function mutation in Alzheimer's disease. Keystone Symp. Mol. Cell. Biol., Molec. Mechanisms in Alzheimer's Disease C1: 35, February 1997.
- A85. Lee, J.P., Zhang, S., Clish, C., Casey, N., Hassell, D.R.M., Stimson, E.R., Esler, W.P., Maggio, J.E., Lu, Y.-A., Felix, A.M., and Peng, J.W.: Protein folding intermediates and Alzheimer's disease. The First International Peptide Symposia, Kyoto, Japan, 1997.
- A86. Cleary, J.P., O'Hare, E., Weldon, D.T., Esler, W.P., Ghilardi, J.R., Rogers, S., Maggio, J.E., and Mantyh, P.W.: Behavioral and CNS response to aggregated A $\beta$  injections in rats. Soc. Neurosci. Abst. 23: 1638, 1997.
- A87. Weldon, D.T., Finke, M.P., Ghilardi, J.R., Rogers, S.D., Esler, W.P., Dysken, M.W., Maggio, J.E., and Mantyh, P.W.: Injection of fibrillar A $\beta$ (1-40) and A $\beta$ (1-42) induces phagocytosis by microglia, astrocyte hypertrophy and loss of a select population of neurons in the rat brain: Dissecting the cellular cascade that mediates A $\beta$  neurotoxicity *in vivo*. Soc. Neurosci. Abst. 23: 1633, 1997.

- A88. Lee, J.P., Zhang, S., Clish, C., Casey, N., Hassell, D.R., Stimson, E.R., Esler, W.P., Maggio, J.E., and Peng, J.W.: Mapping hydrophobic patches on the surface of the Alzheimer's disease peptide via structural and hydrodynamic calculations. *Protein Science* 7(Suppl. 1): 173, 1998.
- A89. O'Hare, E., Weldon, D.T., Ghilardi, J.R., Rogers, S.D., Finke, M.P., Esler, W.P., Maggio, J.E., Mantyh, P.W., and Cleary, J.P.: Bilateral intrahippocampal aggregated beta-amyloid injection alters alternating lever cyclic-ratio schedule behavior in the rat. *FASEB J.* 12: 4359, 1998.
- A90. Lee, J.P., Zhang, S., Heibeck, T., Casey, N., Clish, C., Hassell, D.R., Stimson, E.R., Esler, W., Maggio, J.E., and Peng, J.W.: The soluble monomeric Alzheimer's disease peptide: Toward a molecular hypothesis for amyloidosis. *Biophys. J.* 76: A142, 1999.
- A91. Cogswell III, L.P., Mok, W.M., Parekh, S., Maggio, J.E., Raines, D.E., and Strichartz, G.R.: Development of a novel probe of drug-protein interactions. *Biophys. J.* 76: A111, 1999.
- A92. Cleary, J.P., Ghilardi, J.R., Maggio, J.E., Mantyh, P.W., Hofmeister, M., Fritz, M., Hsiao, K., and O'Hare, E.: Behavioral deficits and CNS changes in the APP-overexpressing transgenic mouse. *Soc. Neurosci. Abst.* 25: 1861, 1999.
- A93. Addona, G.H., Maggio, J.E., and Miller, K.W.: Topographical investigation of the substance P antibody binding site by site-directed spin labeling. *Biophys. J.* 78: 218POS, 2000.
- A94. Chu, G., Egnaczyk, G., Macri, J., Loo, R., Rapundalo, S.T., Maggio, J.E., and Kranias, E.G.: Up-regulation and post-translational modification of SCAD in hyperdynamic phospholamban knockout mouse hearts. *J. Mol. Cell. Cardiol.* 32: A74, 2000.
- A95. Cogswell III, L.P., Raines, D.E., Parekh, S., Mok, W.M., Maggio, J.E., and Strichartz, G.R.: Development of 2-hydroxy-3,5-diiodo-N-[2-(diethylamino)ethyl]benzamide as a novel probe for measuring drug binding to human alpha 1-acid glycoprotein. *FASEB J.* 14: 914, 2000.
- A96. Maggio, J.E.: Examining cellular responses by proteomics. *Eur. J. Neurosci.* 12(Suppl.): 69, 2000.
- A97. Marshall, J.R., Esler, W.P., Stimson, E.R., Ghilardi, J.R., Vinters, H.V., Fishman, J.B., Mantyh, P.W., and Maggio, J.E.: Apolipoprotein E affects amyloid formation but not amyloid growth *in vitro*: Mechanistic implications for apoE4 enhanced amyloid burden and risk for Alzheimer's disease. *FASEB Summer Research Conference, Amyloid and Other Protein Assembly Processes*, 2000.

- A98. Maggio, J.E.: Dock and lock growth of A $\beta$  amyloid [Invited Talk]. FASEB Summer Research Conference, Amyloid and Other Protein Assembly Processes, 2000.
- A99. Cleary, J.P., Ghilardi, J.R., Maggio, J.E., Mantyh, P.W., Hofmeister, J.J., Fritz, M., Hsiao Ashe, K., O'Hare, E.: Immunization against A $\beta$  in APP-overexpressing transgenic mice. Soc. Neurosci. Abst. 26: 497, 2000.
- A100. Egnaczyk, G.F., Pomonis, J.D., Schmidt, J.A., Peters, C.M., Mantyh, P.W., and Maggio, J.E.: Proteomic analysis of endothelin-1 treated astrocytes. Soc. Neurosci. Abst. 26: 1892, 2000.
- A101. Chu, G., Egnaczyk, G.F., Maggio, J.E., and Kranias, E.G.: 2-D mapping of phosphoproteins in mouse cardiomyocytes in response to beta-agonists. J. Mol. Cell. Cardiol. 33: A21, 2001.
- A102. Chu, G., Egnaczyk, G.F., Maggio, J.E., and Kranias, E.G.: Proteomic analysis identifies mouse cardiomyocyte phosphoproteins associated with hyperdynamic contractility. Circulation 104 Suppl.: 1510 (#11-314), 2001.
- A103. Chu, G., Egnaczyk, G.F., Maggio, J.E., and Kranias, E.G.: Proteomic analysis of phosphorylation profile in the phospholamban-deficient hypercontractile cardiomyocytes. J. Cardiac Failure 7: 8, 2001.
- A104. Keyser, C.P., Rogers, S.D., Peters, C.M., Sabino, M.C., Luger, N.M., Maggio, J.E., and Mantyh, P.W.: Long term plasticity induced by chronic pain: Proliferation and death of cells in the spinal cord and DRG in a murine model of bone cancer pain. Soc. Neurosci. Abst. 27: 55.1, 2001.
- A105. Maggio, J.E., Stimson, E.R., Egnaczyk, G.F.: Using unnatural amino acids to probe biological function [Invited Talk]. Indian Institute of Science, Bangalore, India, 2002.
- A106. Maggio, J.E., Stimson, E.R., Esler, W.P., Egnaczyk, G.F., Marshall, J.R., and Lee, J.P.: Folding and misfolding in neurodegenerative disease: Amyloid, A $\beta$ , and Alzheimer's [Invited Talk]. The First Indian Symposium of the Protein Society, Mumbai, India, Abst. IL-16, 2002.
- A107. Maggio, J.E., Egnaczyk, G.F., Stimson, E.R., Wilson, C.J.: Using photoaffinity labels to investigate biological interactions [Invited Talk]. Dept. of Organic Chemistry, IISc Bangalore, Bangalore, India, 2002.
- A108. Chu, G., Egnaczyk, G.F., Zhao, W., Gerst, M., Maggio, J.E.: Identification of a novel heat shock-like phosphoprotein associated with  $\beta$ -adrenergic signaling in mouse cardiomyocytes. Circulation 106(19): 11-26, 2002.



- A109. Maggio, J.E.: Tachykinins and their receptors: From isolation, to sequence, to function [Invited Talk]. Winter Neuropeptide Conference, Regulatory Peptides 110: 136, 2003.
- A110. Schwei, M.J., Maggio, J.E., Sevcik, M.E., Peters, C.M., Lindsay, T.H., Luger, N.M., Rohrich, H., Goblirsch, M.J., Matthews, W.E., Clohisy, D.R., Ghilardi, J.R., and Mantyh, P.W.: Radiation and chemotherapy induced neuropathic pain. Soc. Neurosci. Abst. 29: 178.11, 2003.
- A111. Peters, C.M., Ghilardi, J.R., Lindsay, T.H., Mach, D.B., Rogers, S.D., Roehrich, H., Sevcik, M.A., Schwei, M.J., Maggio, J.E., and Mantyh, P.W. Morphological and neurochemical plasticity of peripheral glial cells in bone cancer pain. Soc. Neurosci. Abst. 29: 815.3, 2003.
- A112. Maggio, J.E.: Protein misfolding and misassembly in disease: A $\beta$ , amyloid & Alzheimer's [Invited Talk]. Cornell-Weill College of Medicine (Pharmacology/Neurology), New York, 2004.
- A113. Maggio, J.E.: Peptide misassembly in neurological disease: A $\beta$  and Alzheimer's disease [Invited Talk]. Temple University School of Medicine (Pharmacology), Philadelphia, 2005.
- A114. Maggio, J.E.: Protein misfolding and misassembly in disease: A $\beta$ , amyloid & Alzheimer's [Invited Talk]. University of Cincinnati College of Medicine, Cincinnati, 2005.
- A115. Maggio, J.E.: Protein misfolding in disease: A $\beta$ , amyloid and Alzheimer's [Invited Talk]. Temple University School of Medicine (Biochemistry), Philadelphia, 2005.
- A116. Maggio, J.E.: Protein misassembly and neurological disease: A $\beta$ , amyloid and Alzheimer's disease [Invited Talk]. University of Wyoming (Neuroscience), Laramie, 2005.
- A117. Maggio, J.E.: Protein misfolding and misassembly in disease: A $\beta$ , amyloid, and Alzheimer's [Invited Talk]. University of Minnesota (Neurology), Minneapolis VA (GRECC), Minneapolis, 2005.
- A118. Maggio, J.E.: Progress against Alzheimer's disease, 1991-2006 [Keynote Address]. Alzheimer's Disease Summer Symposium, Erlanger, KY, 2006.

### SELECTED AFFILIATIONS

American Chemical Society  
Society for Neuroscience

American Society for Pharmacology and Experimental Therapeutics  
 Federation of American Societies for Experimental Biology  
 Association for Medical School Pharmacology  
 Association of Medical School Pharmacology Chairs  
 International Brain Research Organization  
 American Association for the Advancement of Science  
 Foundation for Biomedical Research  
 American Peptide Society  
 International Neuropeptide Society  
 Boston Area Neuroscience Group  
 Protein Society

## COMPETITIVE SUPPORT

[Continuous extramural support since 1976; continuous NIH R01 support since 1985.]

Total competitive research support to JEM as PI by academic year (JEM individual research only; does not include direct support for my students or postdocs; does not include institutional instrumentation and infrastructure grants I wrote or co-wrote).

	<u>Direct costs</u>	<u>Indirect costs</u>	<u>Total costs</u>	<u>%effort</u>
1976-1980:	\$ ≈ 12,800	\$ (unknown)	\$ (unknown)	100%
1981-1985:	\$ ≈ 50,000	\$ (unknown)	\$ (unknown)	100%
1986-1990:	\$ 706,281	\$ 564,552	\$ 1,270,833	80-100%
1991-1995:	\$ 1,239,685	\$ 953,485	\$ 2,193,170	80-90%
1996-2000:	\$ 1,226,282	\$ 722,447	\$ 1,948,729	35-90%
2001-2005:	\$ 881,357	\$ 421,726	\$ 1,303,083	30-40%
1986-2005:	\$ 4,053,605	\$ 2,662,210	\$ 6,715,815	
In 2005 dollars <sup>1</sup> :	\$ 5,683,278	\$ 3,712,991	\$ 9,396,264	
<sup>1</sup> Adjusted for NIH's Biomedical Research and Development Price Index <a href="http://ospp.od.nih.gov/ecostudies/BRDPI_Proj_2005.pdf">http://ospp.od.nih.gov/ecostudies/BRDPI_Proj_2005.pdf</a>				
2006-2007:	\$ 388,000	\$ 205,640	\$ 593,640	35%

Dates: 1985-date  
 Project Title: Various  
 PI: Various  
 Source: Various  
 Type & Number: Direct support of postdocs or students in my laboratory by training grants, individual awards, federal funds, foreign governments, private sector companies, etc. Various numbers.  
 Direct Costs: ≈\$200,000 Indirect Costs: (unknown)

Dates: 1985-date  
 Project Title: Various



PI: Various  
 Source: Various  
 Type & Number: Institutional instrumentation grants for Harvard Medical School or University of Cincinnati College of Medicine to which I contributed significantly as an author or co-PI, but was not PI. [Typically the PI was a Dean or Dept. Head.] Various numbers.  
 Direct Costs: ≈\$3,000,000 Indirect Costs: (unknown)

Dates: 1985-date  
 Project Title: Not applicable  
 PI: Maggio, J.E.  
 Source: Sundry Donor Accounts from miscellaneous individuals, organizations private sector companies, etc. Unrestricted research support.  
 Type & Number: Not applicable  
 Direct Costs: \$46,146 Indirect Costs: \$3,392  
 Total Costs: \$49,538

Predoctoral Support to JEM:  
 National Science Foundation (1976-78)  
 (grant number unknown) NSF Fellowship  
 Direct Costs: ≈\$12,800 Indirect Costs: (unknown)

Postdoctoral Support to JEM:  
 Science and Engineering Research Council, UK (1981-82)  
 National Science Foundation (1982-83)  
 North Atlantic Treaty Organization (1982-83)  
 Muscular Dystrophy Association (1983-84)  
 (grant numbers unknown) SERC (UK), NSF/NATO, MDA Fellowships  
 Direct Costs: ≈\$50,000 Indirect Costs: (unknown)

Dates: 1985-1994  
 Project Title: Tachykinins and Tachykinin Receptors  
 PI: Maggio, J.E.  
 Source: NIH National Institute of Neurological Disorders & Stroke  
 Type & Number: Research grant R01-NS22961 -01 thru -09  
 Direct Costs: \$908,333 Indirect Costs: \$731,890  
 Total Costs: \$1,640,233

Dates: 1988-1992  
 Project Title: Tachykinins and Nociception (project under Anesthesia Research Center Grant)  
 PI: Maggio, J.E. (Center Director: Miller, K.W.)  
 Source: NIH National Institute of General Medical Sciences  
 Type & Number: Research project under Center grant P50-GM15904 -22 thru -26  
 Direct Costs: \$383,668 (Maggio project only) Indirect Costs: \$272,689

Total Costs: \$656,357 (Maggio project only)

Dates: 1989  
Project Title: Novel Bioactive Peptides  
PI: Maggio, J.E.  
Source: Milton Fund of Harvard University  
Type & Number: Research grant (number unknown)  
Direct Costs: \$6,000 Indirect Costs: (none)  
Total Costs: \$6,000

Dates: 1992-1996  
Project Title: Amyloid Peptides and Alzheimer's Disease Plaques  
PI: Maggio, J.E.  
Source: Institute of Chemistry in Medicine  
Type & Number: Research grant (number unknown)  
Direct Costs: \$249,000 Indirect Costs: 149,400  
Total Costs: \$398,400

Dates: 1994-1997  
Project Title: Conformation and Activity of  $\beta$ A4(10-35)-NH<sub>2</sub>  
PI: Maggio, J.E.  
Source: American Health Assistance Foundation  
Type & Number: Research grant AD 94071  
Direct Costs: \$192,873 Indirect Costs: (none)  
Total Costs: \$192,873

Dates: 1994  
Project Title: NMR Relaxation Studies of <sup>15</sup>N-labeled Peptides  
PI: Maggio, J.E.  
Source: Milton Fund of Harvard University  
Type & Number: Research grant (number unknown)  
Direct Costs: \$6,000 Indirect Costs: (none)  
Total Costs: \$6,000

Dates: 1995-1997  
Project Title: Tachykinins and Nociception (project under Anesthesia Research Center Grant)  
PI: Maggio, J.E. (Center Director: Miller, K.W.)  
Source: NIH National Institute of General Medical Sciences  
Type & Number: Research project under Center grant P50-GM15904 -28 thru -30  
Direct Costs: \$319,502 (Maggio project only) Indirect Costs: \$251,679  
Total Costs: \$571,181 (Maggio project only)

Dates: 1995-2007  
Project Title: Amyloid Peptide Conformation and Amyloidosis  
PI: Maggio, J.E.  
Source: NIH National Institute of Aging

Type & Number: Research grant R01-AG12853 -01 through -12  
 Direct Costs: \$1,779,200 Indirect Costs: \$1,116,918  
 Total Costs: \$2,896,118

Dates: 1997-1998  
 Project Title: Faculty Training in Structural Biology  
 PI: Maggio, J.E.  
 Source: University of Cincinnati  
 Type & Number: Faculty Development Award for Department of Pharmacology and  
 Cell Biophysics (number unknown)  
 Direct Costs: \$22,000 Indirect Costs: (none)  
 Total Costs: \$22,000

Dates: 1999-2002  
 Project Title: *In vivo* measurement of  $\beta$ -amyloid deposition  
 PI: Maggio, J.E.  
 Source: Alzheimer's Association  
 Type & Number: Zenith Award Research grant ZEN-99-1842  
 Direct Costs: \$180,331 Indirect Costs: \$18,033  
 Total Costs: \$198,364

#### CURRENT SUPPORT:

Dates: 2007-2008  
 Project Title: Structure of A $\beta$  Oligomers in Alzheimer's Disease  
 PI: Maggio, J.E. (100% effort)  
 Source: University of Cincinnati Sabbatical Leave  
 Type & Number: Sabbatical Research Leave as Visiting Professor of Neurology,  
 Harvard Medical School, Boston, MA (laboratory of Dennis J. Selkoe)  
 Direct Costs: \$448,182 for 1 July 2007 thru 31 December 2008  
 Indirect Costs: \$103,418 for 1 July 2007 thru 31 December 2008  
 Total Costs: \$551,600 for 1 July 2007 thru 31 December 2008

#### DOCTORAL QUALIFYING and PRELIMINARY (CANDIDACY) EXAMINER

Student, Degree: Eui CHOI, Ph.D.  
 Program: Toxicology, Harvard School of Public Health  
 Date: 1987

Student, Degree: John DeBIN, Ph.D.  
 Program: Pharmacology, Harvard Medical School  
 Date: 1987

Student, Degree: Benjamin STANGER, Ph.D.

Program: TRIAD (Interdepartmental), Harvard Medical School  
Date: 1991

Student, Degree: Nidhi WILLIAMS, Ph.D.  
Program: TRIAD (Interdepartmental), Harvard Medical School  
Date: 1991

Student, Degree: Roydon PRICE, Ph.D.  
Program: TRIAD (Interdepartmental), Harvard Medical School  
Date: 1991

Student, Degree: David GARBER, Ph.D.  
Program: TRIAD (Interdepartmental), Harvard Medical School  
Date: 1991

Student, Degree: Matthew ZALNASKY, Ph.D.  
Program: TRIAD (Interdepartmental), Harvard Medical School  
Date: 1991

Student, Degree: Dong LIU, Ph.D.  
Program: TRIAD (Interdepartmental), Harvard Medical School  
Date: 1993

Student, Degree: Carlos PETOSA, Ph.D.  
Program: TRIAD (Interdepartmental), Harvard Medical School  
Date: 1993

Student, Degree: Paul TOLENTINO, Ph.D.  
Program: Neuroscience, Harvard Medical School  
Date: 1993

Student, Degree: Martha SOTO, Ph.D.  
Program: Neuroscience, University of Cincinnati College of Medicine  
Date: 1999

Student, Degree: Alicia GARDNER, Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Date: 1999

Student, Degree: Craig BOLTE, Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Date: 2001

Student, Degree: Keith GADDIE, Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Date: 2005

Student, Degree: Arturo Maldonado, Ph.D.  
 Program: Developmental Biology, University of Cincinnati College of Medicine  
 Date: 2006

### THESIS ADVISORY COMMITTEES

Student, Degree: Kee PARK, Ph.D. (not completed)  
 Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
 Mentor: Armen TASHJIAN  
 Dates: 1985-1986

Student, Degree: Steven KING, Ph.D.  
 Program: Physiology., Harvard Medical School  
 Mentor: Tom WILSON  
 Dates: 1985-1988

Student, Degree: Michael SCHWARTZCHILD, Ph.D.  
 Program: Pharmacology, Harvard Medical School  
 Mentor: Richard ZIGMOND  
 Dates: 1986-1988

Student, Degree: Mary GROSS, Ph.D.  
 Program: Toxicology, Harvard School of Public Health  
 Mentor: William TOSCANO  
 Date: 1986-1989

Student, Degree: John DeBIN, Ph.D.  
 Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
 Mentor: Gary STRICHARTZ and John MAGGIO  
 Date: 1986-1992

Student, Degree: Eui CHOI, Ph.D.  
 Program: Toxicology, Harvard School of Public Health  
 Mentor: William TOSCANO  
 Date: 1987-1990

Student, Degree: Kimberly BIRCH, Ph.D.  
 Program: Toxicology, Harvard School of Public Health  
 Mentor: Jordan POBER  
 Date: 1987-1992

Student, Degree: Kimberly WAGNER, Ph.D.  
 Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
 Mentor: Armen TASHJIAN  
 Date: 1987-1994

Student, Degree: Dale GOAD, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Mentor: Armen TASHJIAN  
Dates: 1989-1995

Student, Degree: Michael DUNN, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Mentor: David MOORE  
Date: 1990-1992

Student, Degree: Margo UTTERBACK, Ph.D. (did not complete)  
Program: Neuroscience, Harvard Medical School  
Mentor: Xandra BREAKFIELD  
Date: 1992-1993

Student, Degree: Paul TOLENTINO, Ph.D.  
Program: Neuroscience, Harvard Medical School  
Mentor: Lydia VILLA-KOMAROFF  
Date: 1993-1994

Student, Degree: Raj DASH, Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Mentor: Litsa KRANIAS  
Date: 1997-1999

Student, Degree: Alicia GARDNER, Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Mentor: Mark OLAH  
Date: 1998-2003

Student, Degree: Mark WILLIAMS, Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Mentor: Joseph SOLOMKIN  
Date: 1998-2000

Student, Degree: Shengwen ZHANG, Ph.D.  
Program: Neuroscience, University of Cincinnati College of Medicine  
Mentor: Lei YU  
Date: 1999-2002

Student, Degree: Hoa LE, Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Mentor: Scott BELCHER  
Date: 2002-2003

Student, Degree: Alex DVORETSKY



Program: Molec. Genetics, Biochem. Microbiol., University of Cincinnati College of Medicine  
Mentor: Paul ROSEVEAR  
Date: 1999-2004

Student, Degree: Beth CHANEY, Ph.D.  
Program: Molec. Genetics, Biochem. Microbiol., University of Cincinnati College of Medicine  
Mentor: Mark RANCE  
Date: 2001-2005

Student, Degree: Eric JOHNSON, Ph.D.  
Program: Molec. Genetics, Biochem. Microbiol., University of Cincinnati College of Medicine  
Mentor: Mark RANCE  
Date: 2001-2005

Student, Degree: Keith GADDIE  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Mentor: Terry KIRLEY  
Date: 2006-date

#### DISSERTATION DEFENSE EXAMINER

Student, Degree: David PRESKY, Ph.D.  
Program: Pharmacology, Harvard Medical School.  
Date: 1985

Student, Degree: Sheridan SWOPE, Ph.D.  
Program: Pharmacology, Harvard Medical School  
Date: 1986

Student, Degree: Michael SCHWARTZCHILD, Ph.D.  
Program: Pharmacology, Harvard Medical School  
Date: 1988

Student, Degree: Timothy TURNER, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Date: 1988

Student, Degree: Steven GREENBERG, M.D.  
Program: Medicine (Harvard University-Massachusetts Institute of Technology Program in Health Science and Technology)  
Date: 1988

Student, Degree: Ravi KUMAR, Ph.D.  
Program: Chemistry, Harvard University  
Date: 1991

Student, Degree: John DeBIN, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Date: 1992

Student, Degree: Junping YANG, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Date: 1993

Student, Degree: Peter YORGEY, Ph.D.  
Program: Microbiology, Harvard Medical School  
Date: 1993

Student, Degree: Albert HUNG, Ph.D.  
Program: Neurobiology, Harvard Medical School  
Date: 1994

Student, Degree: Kimberly WAGNER, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Date: 1994

Student, Degree: Dale GOAD, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Date: 1995

Student, Degree: Bomie HAN, Ph.D.  
Program: Biol. Chem. Molec. Pharmacol., Harvard Medical School  
Date: 1995

Student, Degree: Eugene LIT, M.D.  
Program: Medicine, Harvard Medical School  
Date: 1995

Student, Degree: John McHUGH, M.D.  
Program: Medicine, Harvard Medical School  
Date: 1995

Student, Degree: E. Ravi KUMAR, Ph.D.  
Program: Chemistry & Life Sciences, IIT Bombay, Powai, India  
Date: 1996

Student, Degree: Mark WILLIAMS, M.D., Ph.D.  
Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
Date: 2000

Student, Degree: Shengwen ZHANG, Ph.D.  
 Program: Neuroscience, University of Cincinnati College of Medicine  
 Date: 2002

Student, Degree: Alicia GARDNER, Ph.D.  
 Program: Pharmacol. Cell Biophys., University of Cincinnati College of Medicine  
 Date: 2003

Student, Degree: Cynthia SONDAG, M.A.  
 Program: Biology, University of North Dakota  
 Date: 2005

Student, Degree: Beth CHANEY, Ph.D.  
 Program: Molec. Genetics, Biochem. Microbiol., University of Cincinnati College  
 of Medicine  
 Date: 2005

Student, Degree: Eric JOHNSON, Ph.D.  
 Program: Molec. Genetics, Biochem. Microbiol., University of Cincinnati College  
 of Medicine  
 Date: 2005

### SELECTED INVITED TALKS

[I have not been diligent about keeping records of the invited talks I have given during my career, so the following list is incomplete, except for 1996.]

#### 1981-1995 (incomplete list):

Biochemistry of G-Protein Coupled Receptors Symposium	Philadelphia, PA
Boston College (Biochemistry)	Chestnut Hill, MA
Boston University (Pharmacology)	Boston, MA
Cambridge NeuroScience (Discovery)	Cambridge, MA
Children's Hospital (Neurology Research)	Boston, MA
Connecticut Mental Health Center (Psychiatry)	New Haven, CT
Diatech Diagnostics	Derry, NH
Duke University Medical School (Pharmacology)	Durham, NC
Eli Lilly (Neurology/Urology)	Indianapolis, IN
Gliatech	Cleveland, OH
Gordon Conference (Neuroinflammation)	Saxton's River, VT
Harvard Medical School (Gastroenterology)	Boston, MA
Harvard Medical School (Neurology)	Boston, MA
Harvard Medical School (Pharmacology)	Boston, MA
Hereditary Disease Foundation	Los Angeles, CA

Hoffmann-La Roche (Neuroscience Research)	Nutley, NJ
International Symposium on Nonmammalian Peptides	Firenze, Italy
International Tachykinin Meeting	Montreal, Canada
International Tachykinin Meeting	Dublin, Ireland
International Tachykinin Meeting	Worcester, MA
Lederle/Cyanamid	Pearl River, NY
Merck and Co. (Symposium)	Rahway, NJ
Merck and Co. (Neuroscience)	West Point, PA
Middle East Technical University (Chemistry)	Ankara, TURKEY
Ohio State University School of Medicine (Biochemistry)	Columbus, OH
Pfizer (Neurological Diseases)	Groton, CT
Pharmacia (Oncology)	Milan, Italy
Purdue University (Biochemistry)	W. Lafayette, IN
Society for Neuroscience (multiple)	various
Sterling/Kodak (Nociception)	Rensselaer, NY
Tachykinins in the Nervous System Conference	London, UK
Tufts University School of Medicine (Anesthesia)	Boston, MA
Tufts University School of Medicine (Neuroscience)	Boston, MA
UC Davis (Biochemistry)	Davis, CA
UC Davis (Neuroscience)	Davis, CA
UCLA (Center for Ulcer Research and Education)	Los Angeles, CA
UCSF (Medicinal Chemistry)	San Francisco, CA
USUHS (Pharmacology)	Betheda, MD
University of Alberta (Pharmacology)	Edmonton, Canada
University of Alberta (Protein Center)	Edmonton, Canada
University of Cambridge (Chemistry)	Cambridge, UK
University of Minnesota (Neurology/Dentistry)	Minneapolis, MN
University of North Carolina (Biochemistry)	Chapel Hill, NC
US Army Research Laboratories (Materials)	Natick, MA
Wayne State University (Pharmacology)	Detroit, MI
Winter Conference on Brain Research (multiple)	various
Wyeth-Ayerst	Pearl River, NY

1996 (believed complete):

FASEB Conference (Abnormal Protein Folding)	Copper Mountain, CO
Roche Bioscience (Analgesia)	Palo Alto, CA
University of California, Irvine (Biochemistry)	Irvine, CA
University of California, San Francisco (Neurobiology)	San Francisco, CA
University of California, Los Angeles (Neurology)	Los Angeles, CA
Athena Neurosciences (Alzheimer's Disease Research)	S. San Francisco, CA
New York University (Pathology)	New York, NY
International Tachykinin Meeting	Firenze, Italy
University of Graz (Pharmacology)	Graz, Austria
Hoffmann-La Roche (Dementia)	Basel, Switzerland
University of Oxford (Pharmacology)	Oxford, UK
Merck Harlow (Neuroscience)	Harlow, UK
University of Cambridge (Chemistry)	Cambridge, UK

University of Dundee (Neuroscience)	Dundee, UK
University of Dundee (Biochemistry)	Dundee, UK
SmithKline Beecham (Neuropathology)	Welwyn, UK
Society for Neuroscience (Neurological Diseases)	San Diego, CA
Texas A&M University (Chemistry/Biochemistry)	College Station, TX
George Washington University (Pharmacology)	Washington, DC
Massachusetts General Hospital (Anesthesia)	Boston, MA
University of Cincinnati (Pharmacology)	Cincinnati, OH

1997-date (incomplete list):

Wright State University School of Medicine (Pharmacology)	Dayton, OH
Massachusetts AD Research Symposium	Boston, MA
University of Kentucky (Biochemistry)	Lexington, KY
University of Cincinnati (Chemistry) (multiple)	Cincinnati, OH
Winter Conference on Brain Research (multiple)	various
Winter Neuropeptide Conference	Vail, CO
Keystone Symposium (Molecular Mechanisms in AD)	Purgatory, CO
University of Leiden (Boerhave Symposium)	Leiden, Netherlands
University of Cincinnati College of Pharmacy	Cincinnati, OH
Society for Neuroscience (multiple)	various
FASEB Conference (Amyloid, Protein Assembly Processes)	Copper Mountain, CO
Federation of European Neuroscience Societies	Brighton, UK
Indian Institute of Science (Organic Chemistry)	Bangalore, India
American Society of Neurochemistry	Chicago, IL
Northwestern University Medical School (Pharmacology)	Chicago, IL
First Indian Symposium of the Protein Society	Mumbai, India
Indian Institute of Science (Organic Chemistry)	Delhi, India
Cornell-Weill College of Medicine (Pharmacology)	New York, NY
University of Cincinnati College of Medicine (Cell Biology)	Cincinnati, OH
Medical College of Ohio (Pharmacology)	Toledo, OH
Merck and Co.	West Point, PA
Amgen (Neuroscience) (multiple)	Thousand Oaks, CA
Case Western Reserve University (Neuroscience)	Cleveland, OH
Case Western Reserve University (Biochemistry)	Cleveland, OH
NSF Membrane Applied Science and Technology Center	Cincinnati, OH
Procter and Gamble Pharmaceuticals (multiple)	Mason, OH
Temple University School of Medicine (Pharmacology)	Philadelphia, PA
American Chemical Society, local chapter (multiple)	SW Ohio (various)
University of Cincinnati College of Medicine (Physiology)	Cincinnati, OH
Temple University School of Medicine (Biochemistry)	Philadelphia, PA
University of Kentucky (Center on Aging)	Lexington, KY
University of Wyoming (Neuroscience)	Laramie, WY
University of Minnesota (Neurology) / Mpls VA GRECC	Minneapolis, MN
Alzheimer's Association Summer Symposium	Erlanger, KY

NIH TRAINING PROGRAMS, Harvard Medical School (1985-1997):

- Pharmacological Sciences (Associate)
- Endocrinology (Associate, Executive Committee)
- Neuroscience (Associate, Admissions, Appointments, Steering Committee)
- Developmental Neurology (Associate)
- Molecular Biophysics (Associate)
- Neurological Sciences Academic Development (Associate)
- Biological Sciences in Public Health (Associate)

NIH TRAINING PROGRAMS, University of Cincinnati College of Medicine (1997-date):

- Neuroscience (Associate)
- Cardiovascular Biology (Associate)
- Physician-Scientist (M.D.-Ph.D.) Training Program (Executive Committee)

SELECTED COMMITTEES

[Student thesis, qualifying, defense, advisory, etc., committees – see above.]

[Judge at many secondary school, undergraduate, graduate, postdoctoral, etc., research or poster presentation contests – not listed.]

Departmental Committees

Harvard Medical School, Department of Pharmacology (1985-1987)

- Facilities, Admissions, Instrumentation, Faculty Search

Harvard Medical School, Department of Biological Chemistry and Molecular Pharmacology (1987-1997)

- Facilities (various), Biopolymers (1989-1997; Chair, 1993), NMR (1987-1989), Instrumentation, Faculty Search (1990-1995; Chair, 1992-93), Steering (1987-1990), Course Planning (1991-1994), Curriculum (various)

University of Cincinnati College of Medicine, Department of Pharmacology and Cell Biophysics (1997-date)

[As Director (Chair) 1997-2007, I was an *ex officio* member of all department committees except the Committee on Appointments, Reappointments, Promotions and Tenure, and an active member of many department committee .] For 2007-08, I was on sabbatical leave and serve on no departmental committees.

- Committee on Appointments, Reappointments, Promotions, and Tenure (2009- )

- Committee on Developing MS degree program in Pharmacology and Biotechnology (2009- )

College Committees

Harvard Medical School (1985-1997)

- Neuroscience Training Program Admissions (1988-1992, 1995-1997)



Neuroscience Training Program Steering (1990-1997)  
 Biopolymers Committee (1993-4)  
 Neuroscience Training Program Appointments (1993-1997)  
 Endocrinology Program Executive Committee (1987-1993)  
 New Pathway Medical Pharmacology Curriculum Committee (1986-1987)  
*Ad Hoc* Advisory Committee on NIH (1994-1997)  
 Faculty Fellowships Committee (1995-1997)

University of Cincinnati College of Medicine and UC Medical Center (1997-date)  
 Basic Science Chairs (1997-2007)  
 Faculty Council (1997-2007)  
 Faculty Fellowships Committee (1999-2003)  
 Year II Curriculum Committee (1998-2003, 2006-2007)  
 Medical Student Promotion Board (1998-2003, 2006-2007)  
 Medical Center Fund Executive Committee (1998-2007)  
 Educational Coordinating Committee (1999-2005)  
 Physician Scientist Training Program (M.D.-Ph.D. Program) Internal Advisory  
 Committee (1999-2006)  
 Expression Technology Steering Committee (1999-2004)  
 Postdoctoral Scholars Advisory Committee (1999-2004)  
 College of Medicine Space Committee (2002-2005)  
 Space Utilization Committee (2003-2004)  
 Dean's Steering Committee (2000-2005)  
 LCME (Liaison Committee on Medical Education; accreditation) Task Force  
 (2001-2003)  
 LCME Governance Committee (2001-2003)  
 LCME Site Visit Committee (2003)  
 Dean's Discovery Fund Committee (internal grant proposal review), various  
 subcommittees (Chair, 2003-2004)  
 Department/Director Review Committee reviewing the Department of Molecular  
 and Cellular Physiology and its Director, David Millhorn (Chair, 2001)  
 Proteomics/Genomic Report Group (2001)  
 Research Issues Task Force (1999)  
 Millennium Planning Committee (1998-2003)  
 Millennium Planning Committee, Research Subcommittee (Chair, 1999-2000)  
 Millennium Planning Committee, Growing Our Own Task Force (1999-2000)  
 Department/Director Review Committee reviewing the Department of Molecular  
 Genetics, Biochemistry and Microbiology and its Director, Jerry Lingrel  
 (Chair, 2002)  
 Process and Criteria for Department/Director Reviews Committee (Chair, 2002)  
 Department/Director Review Committee reviewing the Department of Cell Biology,  
 Neurobiology and Anatomy and its Director, Peter Stambrook (2003)  
 Dean's Education Cabinet (2004)  
 Search Committee for Director of Medical Center Sponsored Programs (2004)  
 Bioinformatics Computational Infrastructure Working Group (co-Chair, 2006-7)  
 Clinical and Translational Research Awards Review Committee (2009)

### University Committees

#### Harvard University (1976-1997)

- Division of Medical Sciences Graduate Program Reevaluation Committee (1991-1992)
- Conduct of Science Committee (1993-1994)
- T. T. Hoopes Prize Committee (1990-1997)
- T. T. Hoopes Prize, Natural Sciences Subcommittee (1992-1997)
- Molecular Biophysics Committee (1991-1997)
- Biological Sciences in Public Health (1993-1996)

#### University of Cincinnati (1997-date)

- College of Pharmacy Enhancement Task Force (1998-1999)
- Expression Technology Steering Committee (1998-2004)
- Mass Spectrometry Committee (1999-2001)
- Biomedical Engineering Task Force, Chair (2000)
- Search Committee for Interim Head of Biomedical Engineering, Co-Chair (2000)
- Search Committee for Head of Biomedical Engineering, Co-Chair (2001)
- Search Committee for Senior VP & Provost for Health Affairs (2002-2003)
- Proteomics/Metabolomics Task Force (2005-2006)
- NSF IGERT Program in Bio-Applications of Membrane Science and Technology Internal Advisory Committee (2005-date)
- Academic Technology Planning Committee (2006-date)

### State/Regional Committees

- Alzheimer's Association (Greater Cincinnati Chapter)
  - Professional Advisory Council (1998-date)
  - Board of Trustees (1999-date)
    - President (2001-2003)
    - Vice-President, Research (2004-2005)
    - Executive Committee (2001-2005)
    - Governance Committee (1999-2005)
    - Member (1999-2006)
    - Advisory Member (2006-date)

This non-profit serves about three dozen counties in southern Ohio and northern Kentucky. It has a staff of about thirty and an annual budget of about \$1.5m.

### National/International Committees

#### National Institutes of Health (NIH) Study Sections:

- Experimental Cardiovascular Sciences (ECS), April 1987
- Small Business Innovation Research (SSS-7/E), March 1988
- AIDS and Related Research (ARR-5), December 1988
- Neurological Sciences (NLS-1), June 1990

Neurological Sciences (NLS-1), October 1990  
 Neurological Sciences (NLS-1), June 1991  
 Neurological Sciences (NLS-1), October 1991  
 Neurological Sciences (NLS-1), October 1992  
 Neurological Sciences (NLS-1), October 1993  
 Neurological Sciences (NLS-1), October 1994  
 Neurology (NEUB-1), June 1995  
 Molecular, Developmental & Cellular Neuroscience (MDCN-5), October 2000  
 Brain Disorders and Clinical Neuroscience (BDCN-3), October 2001  
 Hematology (HEM-2), March 2002  
 Molecular, Developmental & Cellular Neuroscience, (MDCN-5), March 2002  
 Structure and Function of Developmental Regulators in the Nervous System  
 (MDCN-2), December 2002  
 Peptide Drug Transport (CVA, Chair), March 2003  
 Brain Disorders and Clinical Neuroscience (BDCN-3), June 2003  
 Cell Death and Inflammation in the Nervous System (CDIN), March 2005  
 Alzheimer Pathology and Therapeutic Approach (BDCN-D), April 2005  
 Cell Death and Injury in Chronic Neurodegeneration (CDIN-D), June 2005  
 Assay Development for High Throughput Molecular Screening (Roadmap)  
 (ZNS1 SRB-G), March 2006  
 Cell Death and Inflammation in the Nervous System (CDIN), March 2006  
 Cell Death in Neurodegeneration (CDIN), October 2006  
 Cell Death and Injury in Neurodegeneration (CDIN), (ZRG1 CDIN-T 02S)  
 June 2007  
 Cell Death and Injury in Neurodegeneration (CDIN), (ZRG1 CDIN-T 03S)  
 October 2007  
 Fellowships: Biophysical and Physiological Neuroscience (F03B-H (20) L),  
 June 2009  
 Emerging Technologies and Training in Neuroscience (ETTN-A), Challenge  
 Grants Panel #12, July 2009

Selected Other National/International Peer Review Service:

National Science Foundation  
 Alzheimer's Association  
 American Foundation for Aging Research  
 American Health Assistance Foundation  
 Institute for Medical Research  
 The Israel Science Foundation  
 New Zealand Neurological Foundation  
 Retirement Research Foundation  
 Midwestern Association of Graduate Schools  
 Alzheimer's Disease Research Center, University of Kentucky (Lexington)

Alzheimer's Association

Board of Directors (2005-date)  
 Chapter Relations Committee (2006-date)  
 Program Committee (2007-date)

Concern and Awareness Workgroup (2007-date)

Governance and Nominating Task Force (2008-date)

This national non-profit, headquartered in Chicago, Illinois, supports research, care and advocacy for Alzheimer's disease. It has a national staff of about two hundred fifty and an annual budget of about \$120m. In addition, about eighty local chapters (total budgets about \$90m) serve states or regions.

### Descriptions of Selected Committee Assignments

#### Biomedical Engineering Task Force (2000)

I chaired this group of two dozen faculty and administrators from the East (Medical Center) and West (Arts and Sciences) Campuses of the University of Cincinnati who created the new Department of Biomedical Engineering, the first new academic department at UC in more than two decades. Because the new department belongs to two Colleges (Engineering and Medicine) on separate campuses under separate Provosts, creating its governance structure and financial models was challenging. After the Task Force report was complete and its recommendations reported to the Provosts on both campuses, I presented the proposal for department creation to Chairs, Faculty Council, and Deans. After acceptance at these levels, the new department was approved by the Provosts, President and the Board of Trustees. UCBME opened its doors officially in 2001.

Later, I chaired or co-chaired the search committees for the interim and permanent Head of the new department, and assisted with its early faculty recruitment. When the permanent Head of BME took office (2003), I distanced myself from the department, but Provosts and Deans still refer to me as "the godfather of BME."

#### Millennium Plan Committees and Task Forces (1998-2006)

I was involved in several Millennium Plan committees and subcommittees from the early planning stages, and chaired the group that developed the original financial models. I also chaired some of the recruiting groups. The Millennium Plan was an initiative to double the size of the University of Cincinnati Medical Center's research-active faculty from 2000 levels.

#### Department/Director Performance Review Committees (2000-2003)

I have served on three Department Review / Director's Performance Review Committees at the University of Cincinnati College of Medicine (Molecular Genetics, Biochemistry and Microbiology and its Chair, J. Lingrel; Cell Biology, Anatomy and Neuroscience and its Chair, P. Stambrook; Molecular and Cellular Physiology and its Chair, D. Millhorn). I chaired the Reviews of two of those departments (Molecular Genetics; Physiology). These reviews encompass all aspects of the departments under review; they include outside as well as inside referees, a site visit, and extensive interviews, as well as crafting a final report to the Dean. I also chaired the committee which reconsidered and revised the processes and criteria for such reviews at the UC College of Medicine in 2002.

#### Provost and Senior Vice-President for Health Affairs Search Committee (2003)

I was appointed by the President of the University to represent the Medical Center department chairs (clinical and basic science) on this committee to select the next director of the Academic Health Center.

### CORE FACILITIES

From 1997-2006, I oversaw two UC College of Medicine Core facilities, one for *ex vivo* working rodent hearts and one for two-dimensional protein separations and proteomics. I started the latter facility in 2003.

### LANGUAGES

English (native), Spanish (read, write, speak), German (scientific reading)

### CONSULTING

government, non-profits, big pharma, biotechnology, patent law, liability law

### SELECTED TEACHING ASSIGNMENTS

#### For Undergraduates

*Mathematics Ar.* Introductory Algebra.

Harvard College

Teaching Fellow, 1975-1976

(full responsibility for a daily class of  $\approx 15$ , and for integration with other sections)

*Biochemistry 10.* Introduction to Biochemistry.

Harvard College

Full year introductory course for Biochemistry concentrators, other science concentrators, and premeds.

Teaching Fellow, 1974-75 (one weekly discussion section of  $\approx 15$ )

Head Teaching Fellow, 1976-1977 (one section plus oversight of other Teaching Fellows)

Instructor, 1979-80 (day to day course management, curriculum and exam oversight for a class of  $\approx 120$ )

Kirkland House, Harvard College

Resident Tutor in Biochemistry, 1977-1981 (small group discussions, course sections, student advising, etc., within the undergraduate House system)

Assistant Senior Tutor, Assistant Dean, 1979-81 (administrative responsibility for housing, science programs, student advising, etc., within the undergraduate House system)



*Chemistry 20. Organic Chemistry.* Harvard College  
 Full year introductory course for Chemistry and Biochemistry concentrators,  
 required for premeds.  
 Teaching Fellow, 1976-1977 (one weekly discussion section of ≈15 students)

*Chemistry 99. Tutorial, Introduction to Research.* Harvard College  
 One-on-one supervision of senior undergraduate research projects.  
 Teaching Fellow, 1977-1978

### For Graduate Students

*Pharmacology 700. Introductory Pharmacology.* Harvard Medical School  
 Traditional pathway introductory medical pharmacology for second year medical  
 students and dental students and first/second graduate students.  
 Conference Leader, 1986-1988 (one-two weekly discussion section of ≈12 medical  
 students and graduate students, or graduate students only)

*Pharmacology 210. Neuropharmacology.* Harvard Medical School  
 Advanced course in neuropharmacology for ≈15 graduate students.  
 Lecturer, 1985-1989  
 Course Co-Director (with R. Zigmond), 1987-1989

*Biological Chemistry and Molecular Pharmacology 201. Protein Structure and Function.*  
 Harvard Medical School  
 Core course for all (≈65) graduate students in interdepartmental (Triad) programs.  
 Course Co-Originator (with R. Rando), 1989  
 Course Co-Director (with R. Rando), 1989-1992  
 Lecturer, 1989-1993

*Biological Chemistry and Molecular Pharmacology 202. Membranes, Receptors,  
 and Signal Transduction.* Harvard Medical School  
 Advanced course; lectures and paper discussions for ≈35 graduate students.  
 Course Originator, Course Director, Lecturer, Conference Leader, 1988-89

*Biological Chemistry and Molecular Pharmacology 211. Advanced Topics in Membrane  
 Structure and Function.* Harvard Medical School  
 Advanced course; lectures and paper discussions for ≈12 graduate students.  
 Lecturer, Conference Leader, 1993-1997

*Biological Chemistry and Molecular Pharmacology 705. Principles of Pharmacology.*  
 Harvard Medical School  
 Introductory course (New Pathway) stressing basic pharmacology more than clinical  
 therapeutics, for ≈160 first year medical students, ≈8 dental students and ≈10 first/second  
 year graduate students.  
 Course Co-Originator (with D. Golan), 1989



Lecturer, 1989-1997

*Division of Medical Sciences xxx. Conduct of Science.* Harvard Medical School  
Required course for graduate students in all programs.  
Conference Leader, Facilitator for a group of  $\approx 8$  students, 1993-1996

*Molecular Genetics, Biochemistry and Microbiology 26-MG-719.*  
University of Cincinnati College of Medicine  
Protein Structure, Function and Engineering  
Advanced course; lectures and papers discussions for  $\approx 15$  graduate students  
Lecturer, 1998-2001

*Neurobiology 206. Neuropharmacology.* Harvard Medical School  
Advanced neuropharmacology course for  $\approx 15$  second year graduate students.  
Course Co-Originator (with J. Cohen), 1994  
Course Co-Director (with J. Cohen) 1994-1997  
Lecturer, 1994-1997

*Pharmacology 26-MCBP-805,806,807. Graduate Seminars in Pharmacology*  
University of Cincinnati College of Medicine  
Weekly presentations/discussions of published papers or current research by  
graduate students ( $\approx 20$ ) and faculty.  
Occasional presenter, regular discussant, 1997-2007

*Pharmacology 26-MCBP-823. Topics in Molecular and Cellular Pharmacology*  
University of Cincinnati College of Medicine  
Advanced course of lectures and paper discussion for  $\approx 6$  first or second year  
graduate students.  
Lecturer, Facilitator, 1998-2006  
JEM topics include proteomics, protein chemistry, mass spectroscopy

*Pharmacology 26-MCBP-831. Receptor Pharmacology*  
University of Cincinnati College of Medicine  
Advanced course for 5 to 25 first and second year graduate students.  
Lecturer, Facilitator, 1998-date  
JEM topics include structural biology methods and applications

*Pharmacology 26-MCBP-903. Special Topics in Pharmacology*  
University of Cincinnati College of Medicine  
Advanced topics course for  $\approx 10$  first-fourth year graduate students.  
Lecturer, Facilitator, 2004-2007  
JEM topics include neuropharmacology, neurodegenerative diseases

*Pharmacology 26-MCBP-823. Integrated Molecular Pharmacology and Medicine*  
University of Cincinnati College of Medicine  
Advanced course of lectures and paper discussion for  $\approx 6$  first or second year  
graduate students (5 credits).

Lecturer, Facilitator, 2008-  
JEM topics include targeted drug design, drug discovery/development in the  
Molecular Mechanisms and Contemporary Therapeutics block of the course.

#### For Medical Students

*Pharmacology xxx. Hormones and Receptors.* Harvard Medical School  
New Pathway (case-based) small group discussion class on endocrine  
pharmacology, cases focusing on insulin, diabetes, signaling. For ≈12 first year medical  
students.

Class Originator, Discussion Leader, 1986-1987

*Pharmacology 700. Introductory Pharmacology.* Harvard Medical School  
Introductory medical pharmacology and therapeutics (Traditional Pathway) for  
second year medical students dental students and first/second graduate students.  
Conference Leader, 1986-1988 (one-two weekly discussion sections of ≈12)

*Biological Chemistry and Molecular Pharmacology 705. Principles of Pharmacology.*  
Harvard Medical School  
Introductory principles course (New Pathway) stressing basic pharmacology rather  
than clinical therapeutics, for ≈165 first year medical students and first/second year  
graduate students.

Course Co-Originator (with D. Golan), 1989

Lecturer, 1989-1997

*Medical Pharmacology and Therapeutics 26-MCBP-841, 842, 843, 844.*

University of Cincinnati College of Medicine

Full-year course in medical pharmacology and clinical therapeutics for ≈160 second  
year medical students and a few second year graduate students. During my term as  
Course Director, the student popularity of the course rose from 1.9 (an historic low and an  
LCME point-of-concern) to 3.8 (exceeding the average of Year II courses) of 5.

Lecturer, 1997-date

Course Director, 1998-2003, 2006-07

Course Co-Director (with R. Millard), 2003-2005

Tutorial Facilitator, 1999-2007

JEM Lecture Topics include: Introduction to Pharmacology; History of Pharmacology;  
Drug Discovery; FDA and Drug Regulation; Pharmacodynamics (2-3 lectures), ADME;  
Drug Delivery to Compartments; Pharmacokinetics (2-3 lectures); Autonomic  
Pharmacology (3-5 lectures); Adrenergic Pharmacology (2-4 lectures); Dopamine  
Pharmacology and Parkinson's Disease; Introduction to Neuropharmacology;  
Antidepressants; Antipsychotics; Opioids and Analgesia, Insulin and Oral  
Antihyperglycemics. During my years as Course Director, Pharmacology was the subject  
in which UCCOM students scored consistently highest (or top three) on the Step I Boards.

I have won Honorable Mentions (top five) for Golden Apple Awards for medical student  
teaching at both Harvard Medical School and UC College of Medicine.

TRAINEESUndergraduates, Research Assistants, etc.

Name:	Eric LILLY, M.D.	
Status/Dates:	Undergraduate (Wake Forest)	1986
Project/Duties:	Summer Research	
Went on to:	graduated Wake Forest (B.A.) graduated Duke Medical School (M.D.)	
Name:	José CORDOVA, Ph.D.	
Status/Dates:	Research Assistant	1986-1988
Project/Duties:	Tissue Culture, Receptor Binding, Radioimmunoassay	
Went on to:	graduated Yale School of Public Health (Ph.D., Tropical Health) Faculty Member, University of Chile, Santiago	
Name:	Paul BLANCHARD, M.D.	
Status/Dates:	Undergraduate (Univ. Massachusetts, Amherst)	1987
Project/Duties:	Summer Research	
Went on to:	graduated Univ. Pennsylvania Medical School (M.D.) Residency at Beth Israel Hospital, Boston Private practice, Anesthesia	
Name:	Kay SILVESTRI	
Status/Dates:	Undergraduate (M.I.T.)	1987
Project/Duties:	Summer Research	
Went on to:	graduated M.I.T. (B.S.)	
Name:	Susie GRANT	
Status/Dates:	Undergraduate (Columbia)	1989
Project/Duties:	Summer Research	
Went on to:	graduated Columbia (B.A.)	
Name:	James CHEN, Ph.D.	
Status/Dates:	Undergraduate (Harvard)	1989
Project/Duties:	Summer Research	
Went on to:	graduated Harvard University (Ph.D., Chemistry)	
Name:	Steven POLOMOSCANIK	
Status/Dates:	Research Assistant	1990
Project/Duties:	Immunoassays	
Went on to:	Laidlaw, Inc.	
Name:	AI LOCKE	

Status/Dates:	Research Assistant	1991
Project/Duties:	Tissue Culture, immunochemistry	
Went on to:	NE Deaconess Hospital	
Name:	Maxwell MENG, M.D.	
Status/Dates:	Undergraduate (Harvard)	1991
Project/Duties:	Undergraduate Thesis	
Went on to:	graduated Johns Hopkins Medical School (M.D.)	
Name:	Steven CROWLEY, M.D.	
Status/Dates:	Undergraduate (Harvard)	1991
Project/Duties:	Summer Research	
Went on to:	graduated Emory University Medical School (M.D.)	
Name:	Annie SUH, M.D.	
Status/Dates:	Undergraduate (Harvard)	1991
Project/Duties:	Summer Research	
Went on to:	graduated Harvard Medical School (M.D.)	
Name:	Todd BRENNER	
Status/Dates:	Undergraduate (Brandeis)	1993
Project/Duties:	Undergraduate Thesis	
Went on to:	unknown	
Name:	Joan JENNINGS	
Status/Dates:	Research Assistant	1992-1997
Project/Duties:	Autoradiography, radioimmunoassay	
Went on to:	(retired)	
Name:	Margarita MARNERAKIS	
Status/Dates:	Research Assistant	1992-1994
Project/Duties:	Tissue culture, receptor binding	
Went on to:	Tufts University, Ph.D. program	
Name:	Nina IRANI	
Status/Dates:	Undergraduate (M.I.T.)	1993
Project/Duties:	Summer Research	
Went on to:	graduated M.I.T. (B.S.)	
Name:	Kristina KALAN	
Status/Dates:	Undergraduate (Harvard)	1994
Project/Duties:	Research Tutorial in Chemistry	
Went on to:	graduated Harvard College, B.A. in Chemistry	
Name:	Natalie Campbell	
Status/Dates:	Undergraduate (Harvard)	1995
Project/Duties:	Summer Research	

Went on to: unknown

Name: Bertrand TSENG, Ph.D.  
 Status/Dates: Undergraduate (Harvard) 1996  
 Project/Dates: Summer Research  
 Went on to: graduated Scripps, Ph.D. in Marine Biology

PREDOCTORAL TRAINEES:

University Chemical Laboratory, University of Cambridge, Cambridge, UK

Name: Carol V. ROBINSON, Ph.D. (née BRADLEY)  
 Status/Dates: Graduate student (main mentor: D. H. Williams) 1981-1982  
 Project: Isolation, characterization of novel neuropeptides  
 Went on to: Postdoc at University of Bristol  
 Lecturer in Chemistry at University of Oxford  
 Reader in Chemistry at University of Cambridge  
 Fellow of the Royal Society of London

Name: Sitthivett SANTIKARN, Ph.D.  
 Status/Dates: Graduate student (main mentor: D. H. Williams) 1981-1982  
 Project/Duties: Structure of biologically active peptides  
 Went on to: Postdoc at UCSF, postdoc at Harvard School of Public Health  
 Corporate CEO, Bangkok, Thailand

Dept. of Pharmacology or Dept. of Biological Chemistry and Molecular Pharmacology,  
 Harvard Medical School, Boston, MA

Name: John DeBIN, M.D., Ph.D.  
 Status/Dates: Graduate student (co-mentor: G. R. Strichartz) 1990-1992  
 Project/Duties: Isolation and characterization of chlorotoxin  
 Went on to: Medical residency, Albany, NY

Name: Ivana HUBAČEK-VESELSKA, M.S.  
 Status/Dates: Research Associate 1991-1992  
 Project/Duties: Synthesis of photoreactive amino acids  
 Went on to: graduate student at ETH, Zurich, Switzerland

Name: William P. ESLER, Ph.D.  
 Status/Dates: Graduate Student 1994-1998  
 Project/Duties: Deposition of Alzheimer's disease A $\beta$  peptides  
 Thesis Title: Alzheimer's disease beta-amyloid peptide assembly and deposition  
*in vitro*  
 Went on to: Postdoc at Harvard Medical School  
 Senior Scientist, Bayer Corporation, West Haven, CT

## Rotating graduate students (incomplete list):

Diana COLLAZO (Pharmacology, 1987); Junping YANG (Pharmacology, 1988); Steven SHAMAH (BCMP, 1988); Alec GARRAWAY (BCMP, 1990); Phillip SCHWARTZ (Neuroscience, 1992); Alana O'REILLY (BCMP, 1992); Kelly VAN KOUGHNET (Neuroscience, 1993)

## University of Cincinnati College of Medicine, Cincinnati, OH

Name: Gregory F. EGNACZYK, M.D., Ph.D.  
Status/Dates: Graduate Student 1998-2001  
Project/Duties: Photoaffinity Labeling and Proteomics  
Thesis Title: Biochemical studies of beta-amyloid (A $\beta$ ) fibrils  
Went on to: Resident in Cardiology, Massachusetts General Hospital, Boston, MA

Name: Jeffrey R. MARSHALL, Ph.D.  
Status/Dates: Graduate Student 1998-2002  
Project/Duties: Deposition and amyloid imaging using A $\beta$  peptides  
Thesis Title: Kinetics of A $\beta$  peptide deposition: Toward *in vivo* imaging of Alzheimer's disease amyloid  
Went on to: Marshall Investment Research, Cleveland, OH

## Rotating Graduate Students (incomplete list):

Alicia Gardner (Pharmacology and Cell Biophysics, 2000), Eric Johnson (PSTP, 2000), Lamar GERBER (Pharmacology and Cell Biophysics, 2001), Rick FLANNERY (Neuroscience (2001), Joshua KOSCHER (Neuroscience, 2002)

POSTDOCTORAL TRAINEES:

## Medical Research Council, Cambridge, UK

Name: John C. HUNTER, Ph.D.  
Status/Dates: Postdoc 1982-1984  
Project/Duties: Pharmacology of novel mammalian tachykinins  
Went on to: Parke-Davis (Cambridge, UK)  
Syntex (Palo Alto, CA)  
Roche Bioscience (Palo Alto, CA)  
Vice President, CNS/CV Biology Research, Schering-Plough  
Research Institute, Kenilworth, NJ

## Harvard Medical School, Boston, MA

Name: Werner F. SPILL, M.D.  
Status/Dates: Postdoc 1988-1989  
Project/Duties: Neuropeptide localization by immunochemistry  
Went on to: Practicing physician, Germany



Name: Irmgard Th. PERSHA-LIPPE, Ph.D. (née LIPPE)  
 Status/Dates: Postdoc 1989-1990  
 Project/Duties: Neuropeptide receptors on immune cells in culture  
 Went on to: Assistant Professor of Pharmacology, University of Graz, Austria  
 Prof. and Vice-Head, Department of Experimental and Clinical  
 Pharmacology, Medical University of Graz, Austria

Name: Heng-Phon TOO, Ph.D.  
 Status/Dates: Postdoc 1988-1993  
 Project/Duties: Tachykinins, tachykinin receptors in nociception  
 Went on to: Associate Professor, Department of Biochemistry, Faculty of  
 Medicine, National University of Singapore, Singapore

Name: Evelyn R. STIMSON, Ph.D.  
 Status/Dates: Senior Research Associate 1988-date  
 Project/Duties: Tachykinins and amyloid peptides  
 Went on to: Working in my lab

Name: Jonathan P. LEE, Ph.D.  
 Status/Dates: Research Associate 1994  
 Project/Duties: NMR of labeled amyloid peptides  
 Went on to: Assistant Professor of Chemistry, Boston University, Boston, MA

Name: Yueming LI, Ph.D.  
 Status/Dates: Postdoc 1992-1994  
 Project/Duties: Tachykinin receptor photolabeling  
 Went on to: Principal Scientist, Merck & Co., West Point, PA  
 Associate Member, Memorial Sloan-Kettering, New York, NY

Name: Ping DING  
 Status/Dates: Postdoc 1995-date  
 Project/Duties: Peptide biochemistry  
 Went on to: US Army Research Laboratories, Natick, MA

Name: Clary CLISH, Ph.D.  
 Status/Dates: Postdoc (main mentor: J. P. Lee) 1995-1996  
 Project/Duties: Diffusion (MW) measurements by NMR of A $\beta$  peptides  
 Went on to: Postdoc, Brigham & Women's Hospital, Boston, MA

Name: Carol J. WILSON, Ph.D.  
 Status/Dates: Postdoc 1994-1997  
 Project/Duties: Protein chemistry, immunochemistry  
 Went on to: Collagenesis, Inc., Waltham, MA  
 Senior Scientist, Akcelis Corporation, Medford, MA

University of Cincinnati College of Medicine, Cincinnati, OH

Name: William P. ESLER, Ph.D. 1998-2000  
 Status/Dates: Postdoc  
 Project/Duties: A $\beta$  deposition kinetics and mechanism  
 Went on to: Postdoc at Harvard Medical School  
 Senior Scientist, Bayer Corporation, West Haven, CT

## PEER REVIEW EXPERIENCE

NIH Study Sections and other grant application review service:  
 See above (National/International Committees)

Referee for the following Journals (*ad hoc*):

- |                          |  |                              |
|--------------------------|--|------------------------------|
| • Am. J. Pathol.         | • Gut                                  | • Molec. Pharmacol.          |
| • Am. J. Physiol.        | • J. Am. Chem. Soc.                    | • Nature                     |
| • Anal. Biochem.         | • J. Biol. Chem.                       | • Nature Biotechnol.         |
| • Anesthesiology         | • J. Chem. Neuroanat.                  | • Neurobiol. Aging           |
| • Biochemistry           | • J. Lab. Clin. Med.                   | • Peptides                   |
| • Biochem. Biophys. Acta | • J. Mol. Biol.                        | • Pharmacol. Rev.            |
| • Bioorg. Medic.         | • J. Neurochem.                        | • Proc. Natl. Acad. Sci. USA |
| • Chem. Lett.            | • J. Neuroimmunol.                     | • Protein Sci.               |
| • Brain Res.             | • J. Neurosci.                         | • Regul. Peptides            |
| • Brit. J. Pharmacol.    | • J. Neurosci. Res.                    |                              |
|                          | • J. Receptor Signal Transduction Res. | • Trends Neurosci.           |
| • Cancer Res.            | • J. Struct. Biol.                     |                              |
| • Endocrinology          | • Lab. Invest.                         |                              |
| • Gastroenterology       |  |                              |

## BRIEF PROFESSIONAL BIOGRAPHY

Dr. Maggio's graduate work included research on noncovalent interactions, organic synthesis, reaction mechanisms, biological control, NMR spectroscopy, and protein biochemistry under the mentorship of Nobel laureates Jean-Marie Lehn, Robert B. Woodward, and (principally) Konrad E. Bloch. He received the Ph.D. in Organic Chemistry from Harvard University in 1981. His postdoctoral research on various aspects of neuropeptides and neuropeptide receptors was carried out at the Medical Research Council and the University of Cambridge, UK, with Leslie L. Iversen and Dudley H. Williams; and later at Yale University School of Medicine with Robert H. Roth. He served on the faculty of the Department of Biological Chemistry and Molecular Pharmacology of Harvard Medical School from 1985 to 1997, and is presently the van Maanen Professor of Pharmacology and Experimental Therapeutics at the University of Cincinnati College of Medicine. From 1997-2007, he was the Director (Chair) of the Department of Pharmacology and Cell Biophysics at the University of Cincinnati College of Medicine. Dr.

Maggio is currently (2007-2008) on sabbatical leave as Visiting Professor of Neurology at Harvard Medical School.

Under Dr. Maggio's chairmanship, the Department of Pharmacology and Cell Biophysics at the University of Cincinnati College of Medicine had (30 June 2004) approximately: 15 fulltime faculty, 20 graduate students, headcount 75; annual budget \$5.3 million, research grant holdings \$2.9 million annual direct costs (up from \$1.6 million when I arrived in FY98), 20000 nsf wet space, 30000 nsf total space, operated two College of Medicine Core Facilities (working rodent heart; two-dimensional electrophoresis/proteomics). The department was responsible for the education of medical students in pharmacology and therapeutics.

## RESEARCH INTERESTS

The bioactive peptides are the largest and least understood class of intercellular messengers, carrying out a diverse set of functions in a wide variety of systems. Understanding bioactive peptides and their receptors, in the nervous system and elsewhere, is the general research goal in our group.

One system of interest is the tachykinin (substance P) family of peptides and receptors, which are involved in transmission of primary afferents and thus in pain and neurogenic inflammation. As the primary structures of both the ligands and their receptors are known, an excellent model system for peptide-protein interactions in signaling is available. We have identified through photoaffinity labeling regions of the peptide agonist substance P interacting with particular regions of its G-protein-coupled receptor, a protein whose expression is upregulated a thousand-fold in some inflammatory diseases. Radioactive, fluorescent, and antibody probes of these receptors allow studies of expression, desensitization and internalization *in vivo* and *in vitro* in various cell and tissue systems.

A major interest, and a system under active investigation currently, is the process of amyloid formation in Alzheimer's disease (AD) and other amyloidoses. The characteristic lesion of AD is brain senile plaques formed mainly of the human amyloid peptide A $\beta$ , a  $\approx$  40-mer which occurs naturally in normal as well as AD brain. By reconstituting plaque growth (deposition of A $\beta$  at physiological concentrations onto authentic plaques) *in vitro*, we can characterize the process and identify conditions and components which enhance or inhibit its kinetics. Structure/activity studies have identified features critical for amyloid deposition and active peptide analogues suitable for high resolution structure determination by nuclear magnetic resonance spectroscopy. The latter studies have further identified conformational elements essential to plaque deposition. High throughput screening methods for drug discovery in this area have also been developed. Kinetic studies are used to assess the role of intermediates and development of agents for *in vivo* imaging. Proteomic and histological methods are employed to assess the responses of cells and tissues to forms of A $\beta$  amyloid. Current sabbatical research project (Harvard Medical School, D. Selkoe laboratory): purification, structural characterization of A $\beta$  oligomers in Alzheimer's disease.

Another interest is the characterization of novel bioactive peptides from natural sources. A particularly rich source is the skin venom of certain neotropical frogs. The peptides found here include antibiotics and toxins as well as close analogs of discovered and yet undiscovered mammalian neuropeptides.

REFERENCES available on request.

Updated: July 2009

A short video of Dr. Maggio dissecting and homogenizing postmortem donated human AD brain, centrifuging homogenates, collecting supernatants, etc., is available on internet at <http://www.alzforum.org/res/com/videogallery/default.asp>. This is a short selection from the 2009 HBO documentary, *The Alzheimer's Project*. At the website above, choose "Beta-Amyloid Oligomers: Investigating the Culprits" from the available titles below the screen, then play. See minutes 4:00 to 7:00.

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